WHAT IS CLAIMED IS:

1. A method for treating cancer, comprising administering to a patient an effective amount of a protein having a receptor-antagonizing domain and a positive immunomodulator domain.

2. A method according to claim 1, wherein the receptor-antagonizing domain is a prolactin-antagonist domain .

3. A method according to claim 1, wherein the positive immunomodulator domain is an interleukin.

4. A method according to claim 3, wherein the interleukin is an interleukin 2 (IL-2).

5. A method according to claim 3, wherein the positive immunomodulator domain is an interleukin 12 (IL-12).

6. A method according to claim 3, wherein the positive immunomodulator domain is gamma interferon (IFNγ).

7. A method according to claim 1, wherein the protein is a prolactin antagonist-interleukin 2 (hPRLA-IL-2) fusion protein.

8. A method according to claim 2, wherein the prolactin-antagonist domain is characterized by a single amino acid substitute from Glycine to Arginine at position corresponding to 129 of the prolactin protein.

9. A method according to claim 2, wherein the prolactin-antagonist domain comprises a protein having the amino acid sequence of SEQ ID NO.: 01 (hPRLA) or a conservative variant thereof.

10. A method according to claim 2, wherein the prolactin-antagonist domain comprises a truncation of a native prolactin sequence or a conservative variant thereof.

11. A protein, comprising a receptor antagonizing domain and a positive immunomodulator domain.

12. A protein according to claim 11, wherein the receptor antagonizing domain is an apoptosis-promoting domain.

13. A protein according to claim 12, wherein the apoptosis-promoting domain is a prolactin-antagonist domain.

14. A protein according to claim 12, wherein the positive immunomodulator domain is an interleukin.

15. A protein according to claim 14, wherein the interleukin is interleukin 2 (IL-2).

16. A protein according to claim 14, wherein the positive immunomodulator domain is IL-12.

17. A protein according to claim 14, wherein the positive immunomodulator domain is IFNγ.

18. A protein according to claim 12, wherein the protein is a prolactin antagonist-interleukin 2 (hPRLA-IL-2) fusion protein.

19. A protein according to claim 13, wherein the prolactin-antagonist domain is characterized by a single amino acid substitute from Glycine to Arginine at position corresponding to 129 of the prolactin domain.

20. A protein according to claim 13, wherein the prolactin-antagonist domain comprises a protein having the amino acid sequence of SEQ ID NO.: 01 (hPRLA), or a conservative variant thereof.

21. A protein according to claim 13, wherein the prolactin-antagonist domain comprises a truncation of a native prolactin sequence or a conservative variant thereof.

22. A method according to claim 3, wherein the cancer is characterized as expressing a prolactin receptor.

23. A protein comprising a first domain having the amino acid sequence of SEQ ID NO.: 01, or a conservative variant sequence thereof, and a positive immunomodulator domain.

24. A method according to claim 1, wherein the receptor-antagonizing domain is an apoptosis-promoting domain.

25. A method according to claim 24, wherein the apoptosis-promoting domain functions by inhibiting STAT3 phosphorylation in a targeted cell.

26. A protein according to claim 12, wherein the apoptosis-promoting domain functions by inhibiting STAT3 phosphorylation in a targeted cell.

27. A pharmaceutical composition comprising a therapeutically useful amount of the protein of claim 11 and a suitable amount of carrier vehicle.